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**FACSIMILE TRANSMITTAL SHEET**

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COMPANY:	Shimokaji & Associates	DATE:	8/8/2005
FAX NUMBER:	(571) 273-4828	TOTAL NO. OF PAGES INCLUDING COVER:	3
PHONE NUMBER:	(572) 272-4828	SENDER'S REFERENCE NUMBER:	039-0534A
RE:	10/803,428	YOUR REFERENCE NUMBER:	

☐ URGENT ☐ FOR REVIEW ☐ PLEASE COMMENT ☐ PLEASE REPLY ☐ PLEASE RECYCLE

NOTES/COMMENTS:

Per request, re-sending pages 3 and 4 of proposed amendment

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**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (currently amended) A combustor assembly comprising:  
a combustor can~~[[.]]~~ used ~~said combustor can be suitable for use~~  
with a scroll; and  
a variable penetration dilution jet array positioned in an aft portion
- 5 of said combustor can there through, said variable penetration dilution jet array  
~~capable of~~ providing a dilution air flow such that a pattern factor at an exit plane  
of said combustor can is reduced and ~~capable of providing~~ provides a film  
cooling flow to said scroll.
2. (original) The combustor assembly of claim 1, wherein said  
variable penetration dilution jet array is positioned in one axial plane of said aft  
portion.
3. (withdrawn) The combustor assembly of claim 1, wherein said  
variable penetration dilution jet array is positioned in at least two axial planes of  
said aft portion.
4. (original) The combustor assembly of claim 1, wherein said  
variable penetration dilution jet array comprises a plurality of scroll cooling  
openings and a plurality of core penetrating openings.

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5. (original) The combustor assembly of claim 4, wherein the diameter of each said scroll cooling opening is between about 0.100 inches and about 0.300 inches diameter.

6. (original) The combustor assembly of claim 4, wherein the diameter of each said core penetrating opening is between about 0.400 inches and about 0.800 inches diameter.

7. (original) The combustor assembly of claim 4, wherein said variable penetration dilution jet array further comprises a plurality of intermediate openings.

8. (original) The combustor assembly of claim 7, wherein the diameter of each said intermediate opening is between about 0.200 inches and about 0.500 inches.

9. (original) The combustor assembly of claim 7, wherein the number of said scroll cooling openings is greater than the number of said intermediate openings.

10. (withdrawn) The combustor assembly of claim 1, wherein said variable penetration dilution jet array comprises a plurality of scroll cooling openings positioned in a first axial plane of said aft portion and a plurality of core penetrating openings positioned in a second axial plane of said aft portion.

11. (currently amended) A ~~can-and-scroll~~ can-and-scroll combustor assembly comprising:  
a combustor can;  
a scroll positioned downstream and in flow communication with  
5 said combustor can;

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a plurality of scroll cooling openings through said combustor can, said scroll cooling openings ~~capable of providing~~ provide a film cooling flow to said scroll; and

a plurality of core penetrating openings through said combustor  
10 can, said core penetrating openings ~~capable of providing~~ provide dilution air to a hot gas flow core of said combustor can.

12. (currently amended) The ~~can-and-scroll~~ can-and-scroll combustor assembly of claim 11, wherein said combustor can has a pattern factor at an exit plane, and further comprising a plurality of intermediate openings through said combustor can, said intermediate openings ~~capable of~~  
5 ~~providing~~ provide dilution air such that said pattern factor at said exit plane is reduced.

13. (currently amended) The ~~can-and-scroll~~ can-and-scroll combustor assembly of claim 12, wherein the number of said intermediate openings is about equal the number of core penetrating openings.

14. (currently amended) The ~~can-and-scroll~~ can-and-scroll combustor assembly of claim 11, wherein said combustor can is a tapered aft end combustor can.

15. (currently amended) The ~~can-and-scroll~~ can-and-scroll combustor assembly of claim 11, wherein the number of said scroll cooling openings is about twice the number of core penetrating openings.

16. (currently amended) The ~~can-and-scroll~~ can-and-scroll combustor assembly of claim 11, wherein said scroll cooling openings and said core penetrating openings are uniformly circumferentially spaced.

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5. (original) The combustor assembly of claim 4, wherein the diameter of each said scroll cooling opening is between about 0.100 inches and about 0.300 inches diameter.

6. (original) The combustor assembly of claim 4, wherein the diameter of each said core penetrating opening is between about 0.400 inches and about 0.800 inches diameter.

7. (original) The combustor assembly of claim 4, wherein said variable penetration dilution jet array further comprises a plurality of intermediate openings.

8. (original) The combustor assembly of claim 7, wherein the diameter of each said intermediate opening is between about 0.200 inches and about 0.500 inches.

9. (original) The combustor assembly of claim 7, wherein the number of said scroll cooling openings is greater than the number of said intermediate openings.

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10. <sup>rejoined</sup>~~(withdrawn)~~ The combustor assembly of claim 1, wherein said variable penetration dilution jet array comprises a plurality of scroll cooling openings positioned in a first axial plane of said aft portion and a plurality of core penetrating openings positioned in a second axial plane of said aft portion.

11. (currently amended) A ~~can and scroll~~ can-and-scroll combustor assembly comprising:

a combustor can;

a scroll positioned downstream and in flow communication with

5 said combustor can;

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a plurality of scroll cooling openings through said combustor can, said scroll cooling openings ~~capable of providing~~ provide a film cooling flow to said scroll; and

- 10 a plurality of core penetrating openings through said combustor can, said core penetrating openings ~~capable of providing~~ provide dilution air to a hot gas flow core of said combustor can.

- 5 12. (currently amended) The ~~can and scroll~~ can-and-scroll combustor assembly of claim 11, wherein said combustor can has a pattern factor at an exit plane, and further comprising a plurality of intermediate openings through said combustor can, said intermediate openings ~~capable of~~ providing provide dilution air such that said pattern factor at said exit plane is reduced.

13. (currently amended) The ~~can and scroll~~ can-and-scroll combustor assembly of claim 12, wherein the number of said intermediate openings is about equal the number of core penetrating openings.

14. (currently amended) The ~~can and scroll~~ can-and-scroll combustor assembly of claim 11, wherein said combustor can is a tapered aft end combustor can.

15. (currently amended) The ~~can and scroll~~ can-and-scroll combustor assembly of claim 11, wherein the number of said scroll cooling openings is about twice the number of core penetrating openings.

16. (currently amended) The ~~can and scroll~~ can-and-scroll combustor assembly of claim 11, wherein said scroll cooling openings and said core penetrating openings are uniformly circumferentially spaced.

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17. (currently amended) The ~~can and scroll~~ can-and-scroll combustor assembly of claim 11, wherein said scroll cooling openings and said core penetrating openings are positioned in one axial plane of said combustor can.

18. (currently amended)(rejoining) A variable penetration dilution jet array for an assembly having a combustor can and a scroll comprising:

a plurality of core penetrating openings positioned circumferentially about said combustor can;

5 a plurality of scroll cooling openings positioned circumferentially about said combustor can, said scroll cooling openings offset from said core penetrating openings; and

a plurality of intermediate openings positioned circumferentially about said combustor can, said intermediate openings offset from said core  
10 penetrating openings.

19. (currently amended)(rejoining) The variable penetration dilution jet array of claim 18, wherein said scroll cooling openings ~~are capable of providing~~ provide a film cooling flow to said scroll.

20. (currently amended)(rejoining) The variable penetration dilution jet array of claim 18, wherein said core penetrating openings are positioned in one axial plane of said combustor can.

21. (currently amended)(rejoining) The variable penetration dilution jet array of claim 18, wherein said intermediate openings are positioned in at least two axial planes of said combustor can.

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22. (rejoining) The variable penetration dilution jet array of claim 18, wherein the number of scroll cooling openings is greater than the number core penetrating openings.

23. (rejoining) The variable penetration dilution jet array of claim 18, wherein the diameter of each said scroll cooling opening is between 0.100 inches and about 0.300 inches, and wherein the diameter of each said core penetrating opening is between 0.400 inches and about 0.800 inches.

24. (rejoining) A combustor assembly for a turbine engine having a scroll comprising:

a combustor can;

5 a plurality of core penetrating openings circumferentially positioned about an axial plane of said combustor can, said core penetrating openings uniformly spaced; and

a plurality of scroll cooling openings circumferentially positioned about said axial plane of said combustor, said scroll cooling openings uniformly spaced.

25. (rejoining) The combustor assembly of claim 24, further comprising a plurality of intermediate openings circumferentially positioned about said axial plane of said combustor, said intermediate openings uniformly spaced.

26. (rejoining) The combustor assembly of claim 24, wherein each said core penetrating opening has a diameter between about 0.400 inches and about 0.800 inches.

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27. (rejoining) The combustor assembly of claim 24, wherein each said scroll cooling opening has a diameter between about 0.100 inch and about 0.300 inches.

28. (currently amended) An apparatus for a ~~can-and-scroll~~ can-and-scroll combustor assembly comprising:

at least one core penetrating opening through an aft end portion of said combustor can, said core penetrating opening ~~capable of~~ providing dilution  
5 air to a hot gas flow core of said can;

at least one scroll cooling opening through said aft end portion of said combustor can, said scroll cooling opening ~~capable of~~ providing a film cooling flow to said scroll; and

at least one intermediate opening through said aft end portion of  
10 said combustor can, said intermediate opening flow ~~capable of~~ reducing temperature variation at the exit plane of said combustor can.

29. (original) The apparatus of claim 28, wherein;

said at least one core penetrating opening is four core penetrating openings each having a diameter between about 0.400 inches and about 0.800 inches;

5 said at least one scroll cooling opening is eight scroll cooling openings each having a diameter between about 0.100 inch and about 0.300 inches; and

said at least one intermediate opening is four intermediate openings each having a diameter between about 0.200 inches and about 0.500  
10 inches.

30. (currently amended) A method of providing dilution air to a combustor ~~can-and-scroll~~ can-and-scroll assembly comprising the steps of:



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projecting a first portion of dilution air through at least one axial plane of said combustor can such that a film cooling flow is provided to said scroll; and

projecting a second portion of dilution air through at least one axial plane of said such combustor can such that the temperature of a hot gas flow core of said can is reduced.

31. (currently amended) The method of claim 30, further comprising the step of projecting a third portion of dilution air through at least one axial plane of said combustor can such that a temperature variation at an exit plane of said combustor can is reduced.

32. (currently amended)(rejoining) The method of Claim 30, wherein said step of projecting a first portion of dilution air is through at least two axial planes of said combustor can.

33. (currently amended)(rejoining) The method of Claim 30, wherein said step of projecting a second portion of dilution air is through at least two axial planes of said combustor can.